Gender Gaps in College and High School Graduation by Race, Combining Public and Private Schools

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Abstract

Each year our college system gives twice as many bachelor's degrees (BAs) to African American females as males. Large gender gaps favoring women also exist for other groups. Indeed, on average our college system gives 35% more BAs to females than males across all racial and ethnic groups. Traditional explanations for this pattern have focused on what happens in college. In this brief we note that at least part of the story can be found in differences in high school graduation rates. While the differences in high school graduation rates are far smaller, the variations by race and gender follow the same pattern as those found in college. We find that our high schools are graduating about 23% more African-American females than males each year and our estimates suggest about a 4% difference that favors females across all ethnic groups.

In order to conduct this analysis we build on methods of calculating public high school graduation rates used in previous Urban Institute work and enhance them by adding in graduates from private high schools.

Introduction

On average, males do far better than females in the labor market. Consequently differences favoring females in college graduation are not necessarily a cause for concern. However, the evidence we have seen suggests there should be concern for minority males who are not doing well in the labor market and who are graduating at rates far lower than their female counterparts.

In this brief we present new evidence on graduation rates from high school and show how these data map onto college graduation by race and gender. While the gender differences we find are much smaller in high school than in college, the gender differences across races are similar and raise additional concerns, especially for minority males.

College Graduation

As Table 1 shows, large gaps exist in the number of college graduates by race and gender.

Table 1
Bachelor's Degrees by Race/Enthicity and Gender
United States, 2003-2004

Race/Ethnicity	Total	Male	Female	Female/Male
White, non-Hispanic	967,899	418,664	549,235	1.31
Black, non-Hispanic	123,464	41,127	82,337	2.00
Hispanic	89,060	34,993	54,067	1.55
Asian/Pacific Islander	86,438	38,727	47,711	1.23
American Indian/Alaska Native	10,020	3,986	6,034	1.51
Unknown	77,829	34,729	43,100	1.24
Nonresident Alien	44,832	23,199	21,633	0.93
Total	1,399,542	595,425	804,117	1.35

Notes: See Table A.1 for details.
Source: Table 7 in Knapp, L.G., Kelly-Reid, J.E., Whitmore, R.W., Cong, J.., Burton, L, and Berzofsky, M. Levine, B., and Broyles, S.G. (2005). Postsecondary Institutions in the United States: Fall 2004 and Degrees and Other Awards Conferred: 2003–04 (NCES 2005–182). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
http://nces.ed.gov/pubs2005/2005182.pdf

In 2003-2004 over 80,000 African-American females received BAs in the United States. Only half as many degrees were given to their male counterparts. The differences are far smaller for other racial/ethnic groups and are even reversed for nonresident aliens. However, a large and substantial gap still remains overall favoring females who received around 800,000 BAs compared to males who received only about 600,000.

Table 2 shows that the advantages for females are even larger when one considers other types of post-secondary degrees including associate's and master's degrees. The only exception is for PhDs and other professional degrees where men still outnumber women slightly, but PhD degrees represent less than 4 percent of all degrees awarded in the U.S.

Table 2: College Degrees by Type and Gender
United States, 2003-2004

Degree Type	Total	Male	Female	Female/Male
Less than 1 year	355,452	136,743	218,709	1.60
At least 1 but less than 2 years	303,377	107,434	195,943	1.82
Associate's Degrees	665,508	260,103	405,405	1.56
At least 2 but less than 4 years	28,958	12,961	15,997	1.23
Bachelor's Degrees	1,399,542	595,425	804,117	1.35
Post-Baccalaureate Certificates	19,932	6,787	13,145	1.94
Master's Degrees	558,940	229,545	329,395	1.43
Post-Master's Certificates	12,699	4,070	8,629	2.12
PhDs	48,378	25,323	23,055	0.91
First-Professional Degrees	83,041	42,169	40,872	0.97
First-Professional Certificates	905	493	412	0.84
Total	3,476,732	1,421,053	2,055,679	1.45

Notes: See Table A.1 for more details.
First professional degree include those given to doctors, lawyers, dentists, pharmacists, veterinarians and theologians. They require at least 2 years of college before the degree and at least 6 total years once the degree is completed.
First professional certificates are awarded for courses of study completed after completing a first professional degree.
Source: Table 7 in Knapp, L.G., Kelly-Reid, J.E., Whitmore, R.W., Cong, J.., Burton, L, and Berzofsky, M. Levine, B., and Broyles, S.G. (2005). Postsecondary Institutions in the United States: Fall 2004 and Degrees and Other Awards Conferred: 2003–04 (NCES 2005–182). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
http://nces.ed.gov/pubs2005/2005182.pdf

Males also outnumber females in PhDs and professional degrees within racial and ethnic subgroups with one exception: African American females receive more PhDs and professional degrees than their male counterparts by fairly wide margins (see Table A.1).

High School Graduation

The gap between males and females in college graduation may well be due in part to conditions of the college experience. In addition, however, we see evidence that while the gender differences in high school graduation are far smaller than for college graduation, many of the patterns in the data are similar—the overall gap favors females, the gender gap is far larger for blacks than for whites, and the gap is somewhere in between for students of other races and ethnicities. Table 3 presents numbers of high school graduates based on public school data from the 2000-2001 school year and private school data from 2001-2002. Using these data, we estimate that on average, 23 percent more black females graduate from high school than black males. For whites, the ratio of male to female high school graduates is almost exactly 1 (0.995, to be exact). For students of other races and ethnicities, the ratio is 1.09, meaning that about 9 percent more females graduate than males. Overall females have about a four percent advantage compared to males.

Table 3
High School Graduates
by Race/Ethnicity and Gender
United States, 2000-2001 (Public)/ 2001-2002 (Private)

	High School Degrees (Public plus Private)			
Race/Ethnicity	Total	Male	Female	Female/Male
White, non-Hispanic	1,777,868	890,965	886,903	1.00
Black, non-Hispanic	317,587	142,328	175,259	1.23
Other	433,832	207,528	226,304	1.09
Total	2,529,287	1,240,821	1,288,466	1.04

Source: Combines public school graduates from 2000-2001 school year in the Common Core of Data with predicted private school graduates based on 2001-2002 data from the Private School Survey (PSS).
Excludes AZ, KY, NH, SC, TN, VT, and WA because data were not available by gender and race/ethnicity in those states in the CCD.

High School Graduation Rate Calculation Enhancement

Previous research has looked at public high school graduation rates by race and gender (Orfield et al, 2004; Greene and Winters, 2006) using methods similar to those used in the "Wall Chart" in the 1980s (Ginsburg et al, 1988). Those estimates are all based on the number of graduates divided by the number of 9th graders four years earlier, with various types of adjustments.[1] These methods have four weaknesses. First, they estimate graduation rates of 9th graders and thus omit students who drop out before 9th grade. Second, they include students held back in 9th grade, increasing the size of the denominator meaning that the rates may be biased downwards.[2] Third, they omit private

[1] For example, the method used by Swanson in Orfield et al (2004) can be written as graduates over 9th graders 4 years earlier times the ratios of 12th graders in the current year divided by 12th graders in the previous year, 11th graders in the previous year over 11th graders in the year before that and 10th graders 2 years ago over 10th graders 3 years ago.

[2] The method used in Orfield et al (2004) is designed to estimate on-time graduation rates but may be biased up because it includes all graduates in the numerator, including those who did not graduate on time. This upward bias is offset to some extent by the inclusion of students held back in 9th grade in the denominator. The method used by Greene and Winters (2006) averages grades 8-10 enrollment instead of just using grade 9 enrollment in the denominator. Since students can be held back in all three grades, this method may still produce some downward bias.

school students. Finally, they may be biased by migration between public and private schools.[3]

In this brief we present a way of calculating national high school graduation rates that overcomes all of these difficulties. This method uses reports of the total number of graduates (public and private) divided by an estimate of the population of potential graduates. This Simple Graduate Ratio (SGR) method has been used in some earlier work (Chaplin, 2002) and has been reported for a number of years by the U.S. Department of Education (National Center for Educational Statistics, 2001). It overcomes the problems of students dropping out before 9th grade or being held back in 9th grade by using an estimate of the total population as the denominator instead of an estimate of the number of first time 9th graders. It allows for estimates that account for private school students and overcomes the problem of migration between public and private schools by including graduates from both types of schools in the numerator. This is the first report to present estimates based on the SGR method by race and gender.

Method

The main reason previous research has not between able to provide very precise estimates of high school graduation rates, including private schools by race and gender, is that the only data containing information on the universe of private school graduates is the Private School Survey (PSS) and these data do not include numbers of graduates broken down by these categories.[4] In order to overcome this limitation we simulate

[3] The potential importance of this type of migration was stressed in recent work by Engberg and Gill (2006).

[4] Relatively imprecise estimates of private school graduation rates by race and gender can be obtained from survey data that cover only a fraction of the population. Based on analyses of public school

private school graduates by race and gender using information that is available in the PSS on the total number of graduates, the numbers of students enrolled by gender, and the numbers of students enrolled by race/ethnicity.

In order to do this simulation we need to have data that enables us to estimate the relationships between the numbers of graduates by race and gender and the data we have in the PSS. To estimate these relationships, we use data from the CCD for public school districts that appear similar to private schools based on their size and racial and gender make-up. Public school districts with characteristics similar to those of private schools may not have identical graduation rates so these estimates may be off somewhat. However, we suspect that the remaining differences in graduation rates (after controlling for race, gender, and school size) are likely fairly small. In addition, private school graduates comprise only 12.7% of the total graduates in our sample. Thus, these remaining differences affect small fractions of our total estimates.

We used a four-step method to estimate graduates by race and gender in private schools. First we identified a set of districts similar to private schools based on their size.[5] This was done to help ensure that the patterns seen in the public school districts would be more similar to the patterns in the private schools. Second, we created baseline estimates of graduates by race and gender for each public school district in our sample based on their overall racial/ethnic and gender make-up and their total number of graduates, variables that are available in both the CCD and PSS. This was done to give us a good starting point for our final estimates. Third, we used this variable and a

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graduation rates these data may produce biased estimates (Warren 2005; Greene and Winters 2006; Swanson and Chaplin 2003) though this possibility is the source of some debate (Mishel and Roy, 2006).

[5] We could not use data on public schools because the CCD does not report on graduates by school—only by district.

number of others that we had in both the CCD and PSS in a regression to predict the actual number of graduates by race and gender. This third step is designed to deal with the fact that our baseline estimates are likely to be off because graduation rates vary substantially by race and gender within each school and by the racial and gender make-up of the school. Finally, we used the results of this regression to predict graduates by race and gender in each private school in our sample.

Step 1: The subset of districts used in the regression was a random subset of districts chosen to resemble the distribution of private school enrollment by a pre-chosen set of size categories. All districts had to have students enrolled in 12th grade. Within this set of districts we randomly selected districts based on 9th grade enrollment categories so that the number of districts in each category roughly matched the number of private schools in that same size category. For example, any district with 1 to 20 students in grade 9 was automatically included in the sample, districts with between 21 and 30 students in 9th grade had a 20% chance of being included, districts with 31-40 such students had a 30% chance, and districts with 41-53 such students had a 75% chance. No district with more than 727 9th grade students (the maximum number in the PSS) was included in our sample.[6] This resulted in a subset of 2,622 districts whose distribution of 9th grade students looked roughly similar to that for private schools based on the size categories we chose.

Step 2: Our baseline estimates of graduation numbers by racial-ethnic group and gender took the following form:

[6] The remaining cut-points for the size categories were 80, 122, and 184.

n_{rg} = total graduates in district*(fraction of students of race *r* in district) * (fraction of students of gender g in district)

Step 3: We then ran a regression of actual graduates by race and gender in the district (a_{rg}) on our baseline estimate (n_{rg}) with controls for the fraction of that gender (f_g), the fraction of that race (f_r), and interactions of these variables with our baseline estimate. Thus, our regression took the following form:

$$a_{rg} = \beta 0 + \beta 1 * n_{rg} + \beta 2 * f_r + \beta 3 * f_g + \beta 4 * n_{rg} * f_r + \beta 5 * n_{rg} * f_g$$

This regression was run separately for each racial/ethnic and gender category. We used three race/ethnicity groups: Black non-Hispanics, White non-Hispanics and Others where Others includes students identified as Asian, Hispanic, or Native American.

The r^2 values for our regressions ranged between .75 for white females to .97 for black females. Nearly all coefficient estimates were statistically significant at the $p <$ .0001 level. Three coefficient estimates (β4 for white females, β3 for other males, and β3 for other females) failed to reach statistical significance at the $p < .10$ level. These regression results can be found in Table A.2.

Step 4: These models were then used to predict the number of graduates by race and gender at private schools using analogous variables at the school level and the coefficients from the relevant model.[7] These numbers were then totaled with the original public school numbers to obtain national totals for each race-ethnicity and gender group.

To estimate graduation rates using the SGR method by race and gender, the number of estimated graduates was divided by an estimate of the size of the 17-year-old

[7] Estimates were not possible for Arizona, Kentucky, New Hampshire, South Carolina, Tennessee, Vermont, and Washington because these states did not provide race information to the CCD for the 2000-2001 school year.

population based on 2000 Census data. We did not use 18-year-olds because they include recent immigrants to the U.S. who would not have had a reasonable chance to graduate from high school in the U.S. The 17-year old population includes fewer immigrants than the 18-year old population and those immigrants that are there would have a better chance of attending U.S. high schools.[8] We use data on public school graduates from the class of 2000 and private school graduates from the class of 2001. These data are provided in the 2000-2001 CCD and 2001-2002 PSS respectively.

Limitations

This new method of calculating high school graduation rates has limitations. First, because it requires combining public and private school graduates, it does not allow for estimation of separate rates by school type. Separate rates can be calculated using these data, but not without making strong assumptions regarding migration between the public and private schools. Second, we assume that the ratios of graduates by race and gender are similar between public districts and private schools, conditional on our control variables. On the other hand, it should be noted that the method allows graduation rates to differ by race and by gender (separately) within schools and by school type across schools, both unconditionally and also conditional on the variables in the model.

Results

Table 3 presented the numbers of graduates by race and gender using this method. Table 4 presents the graduation rate estimates using the method described above and two

[8] Indeed, in 2000 the high school graduation rate of immigrants age 18 who arrived after 1996 was over 30% compared to only 11% for those age 17.

other methods of estimating high school graduation rates that have been used in recent reports.

Table 4
High School Graduation Rate Estimates
by Race, Gender, and Estimation Method
Comparing Gender Ratios Across Methods

Race/Gender Group	Orfield et al (2004)[1]	Greene and Winters (2006)[2]	SGR = Graduates/ Population[3]
Black Non-Hispanic			
Males	42.8	48.0	52.4
Females	56.2	59.0	67.4
Females/Males	1.31	1.23	1.28
White Non-Hispanic			
Males	70.8	74.0	75.4
Females	77.0	79.0	79.5
Females/Males	1.09	1.07	1.06
Other			
Males	n/a	n/a	46.9
Females	n/a	n/a	57.1
Females/Males			1.22
Overall Male	64.1	65.0	65.4
Overall Female	72.0	72.0	72.7
Females/Males	1.12	1.11	1.11
Overall	68.0	68.5[4]	69.0

[1] Does not include data from AZ, ID, NH, or VT.

[2] Does not include data from AZ, DC, HI, ID, NV, NH, NJ, SC, or VT.

[3] Does not include data from AZ, KY, NH, SC, TN, VT, or WA.

[4] The overall rate for Greene and Winters (2006) reported here is the average for the rates they report for males and females separately. They also report an overall rate of 70% but that is for a different set of states.

The first column contains results from Orfield et al (2004).[9] These are estimates of on-time graduation rates. Thus, it is not surprising that the rates are somewhat lower than those in the remaining two columns, which are intended to estimate overall graduation rates including students who took 5 or more years to graduate, as well as those who graduated on-time (generally in 4 years).[10] The first and second columns contain estimates of public school graduation rates out of students who enter 9th grade while the last column contains an estimate of the total graduation rate including public and private schools starting at birth. Some students drop out before 9th grade so one might expect the first two columns to be larger.[11] At the same time, private school graduation rates appear to be higher than public school graduation rates, especially for minorities (Grogger and Neal, 2000). This may explain why the last column has the highest estimates overall and for each subgroup.[12] What is particularly relevant for this paper is that the ratios of the female to male graduation rates remain fairly constant regardless of the methods used. The ratio is largest for African-Americans, ranging from 1.23 to 1.31 and smallest for Whites, ranging from 1.06 to 1.09. Thus, the same basic story remains—females are graduating from high school at higher rates than males and the difference appears to be much larger for African Americans than it is for Whites.

All three methods of estimating high school graduation rates used in Table 4 suffer from using a numerator (graduates) that includes students who may not be in the denominator (9th graders 4 years earlier or 17-year-olds 1 year earlier). Thus, none of

[9] Footnote 35 in that report suggests that those rates were calculated without AZ, ID, NH, and VT. When we calculate graduation rates using our method and that of Orfield et al (2004) using state-level data and the same set of states for both methods we get numbers that are very similar to those shown in Table 4, especially for the gender ratios.

[10] The definition of on-time varies and often allows Special Education students additional years.

[11] About 5 percent of 25-29 year olds report having dropped out before 9th grade but many of these people may be recent immigrants (Mishel and Roy, 2006).

[12] See Appendix A.3 for a breakout of estimated numbers of graduates between public and private schools.

these methods is ideal for estimating cohort-specific graduation rates, though they may still be better than many alternatives. In the absence of major changes in cohort sizes, graduation rates, and the rates at which students are held back, these mismatches should more or less cancel each other out for the SGR method. In contrast, the non-SGR methods can produce biased estimates even with a constant rate of students being held back because student retention inflates their denominators. This could affect the gender ratios if males are held back at different rates than females. As shown above the gender ratios are fairly similar across methods with the exception that the Greene method has a lower ratio for Blacks.

Like the other methods used in Table 4, the SGR method can be affected by immigration in two important ways, both of which relate to comparisons with alternative datasets that have been used to estimate high school graduation rates by the U.S. Department of Education. First, the SGR method will underestimate the graduation rate of a cohort of students who were in the U.S. in 8th grade if many 17-year-olds enter the U.S. after 8th grade and end up not graduating from high school. This is relevant because the U.S. Department of Education uses data from the National Longitudinal Survey of 1988 to estimate such graduation rates and ends up with estimates around 82% (Mishel and Roy, 2006), over ten percentage points higher than any of the estimates in Table 4. However, only about 2.5 percent of 17-year-olds in the U.S. are foreign born and immigrated to the U.S. in the last 4 years and many of them do graduate from high school.[13] This suggests that graduation rates estimated using the SGR method are unlikely to be off by more than one or two percentage points because of immigration

[13] This is based on unpublished Urban Institute tabulations of March 2004 Current Population Survey Data, available upon request.

compared to the true graduation rate of a cohort of 8th graders (assuming fairly stable graduation rates over a period of time). However, if immigration rates differ by gender they could have a larger impact on the gender ratios of graduates. The NELS data suggest an overall female to male gender ratio of around 1.03 (McMillen and Kaufman, 1996), substantially lower than the ratios in Table 4.

The SGR method may also not match up with graduation rates of 25-34-year-olds such as those often reported based on Current Population Survey data, again because of immigration—but in this case largely because of people who immigrate to the U.S. after the age of 17. However, since immigrants tend to have lower rates of high school graduation (Laird et al, 2006) this would suggest that the CPS estimates should produce lower graduation rate estimates.[14] Instead the CPS estimates are much higher, suggesting that other forces must explain the differences, the major one of which is that the CPS estimates generally include GED certificates which are excluded in the calculations above.[15] In any case, CPS estimates also suggest that more females graduate from high school than males with overall ratios of 1.03 to 1.04, very similar to those from the NELS data, but much lower than those shown in Table 4 (Kaufman et al, 2000 and Laird et al, 2006).[16] In future work we hope to investigate whether immigration rate differences by gender could help to explain differences in the gender ratios of high school graduates reported by the NELS and CPS data compared to those based on CCD data.

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[14] More precisely, Hispanic immigrants have lower graduation rates. Non-Hispanic immigrants actually have higher graduation rates but the bulk of immigrants are Hispanic so the overall graduation rate of immigrants (people born outside of the U.S.) is well below the U.S. average.

[15] The Department of Education used to present estimates of high school graduation rates without GEDs in their annual dropout reports (Kaufman et al, 2000) but stopped doing so because of concerns about the large mismatches between the total numbers of GEDs reported in the CPS and the numbers reported by the GED testing service (Laird et al, 2006).

[16] The ratios are 1.03 or 1.04 depending on whether or not GEDs are included. Interestingly, it appears that males are more likely to get GEDs than females (Kaufman et al, 2000).

Conclusion

Previous work has shown large differences in graduation rates by gender and race in both high school and college that favor women, especially among African-Americans. We confirm these gaps and show that they exist for almost all types of college degrees and that they are found even when one adds in private schools to the calculation of high school degrees. The fact that the gaps emerge in high school suggests that important factors are affecting gender gaps before students enter post-secondary education. Given the continued success of men in the labor market it is not clear if these gender gaps are important for society as a whole. However, the labor market problems of African American men may be related to their relatively poor high school graduation rates, so at least for this particular subgroup earlier educational interventions are likely to be important.

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Appendix A

Additional Tables

Table A1
Post-Secondary Degrees and Awards Conferred by Title IV Institutions, by race/ethnicity, level of award, and gender: United States, academic year 2003–04

	Total Awards	White non-Hispanic	Black non-Hispanic	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Race/ ethnicity unknown	Nonresident Alien
Total Awards	3,476,732	2,211,602	378,361	291,764	189,351	29,334	218,211	158,109
Men	1,421,053	919,278	120,439	107,670	82,302	10,909	93,201	87,254
Women	2,055,679	1,292,324	257,922	184,094	107,049	18,425	125,010	70,855
Women/Men	1.45	1.41	2.14	1.71	1.30	1.69	1.34	0.81
Less than 1 Year	355,452	188,185	63,562	53,889	17,932	3,691	24,533	3,660
Men	136,743	79,535	21,363	17,158	6,795	1,312	9,020	1,560
Women	218,709	108,650	42,199	36,731	11,137	2,379	15,513	2,100
Women/Men	1.60	1.37	1.98	2.14	1.64	1.81	1.72	1.35
At least 1 but less than 2 years	303,377	169,517	55,120	43,355	11,549	3,860	17,519	2,457
Men	107,434	63,462	15,832	14,825	4,438	1,499	6,458	920
Women	195,943	106,055	39,288	28,530	7,111	2,361	11,061	1,537
Women/Men	1.82	1.67	2.48	1.92	1.60	1.58	1.71	1.67
Associate's degrees	6,655,081	431,529	76,922	68,324	31,308	7,692	35,200	14,533
Men	260,103	172,414	24,317	26,071	13,039	2,569	15,915	5,778
Women	405,405	259,115	52,605	42,253	18,269	5,123	19,285	8,755
Women/Men	1.56	1.50	2.16	1.62	1.40	1.99	1.21	1.52
At least 2 but less than 4 years	28,958	19,785	3,059	3,017	1,329	295	1,093	380
Men	12,961	8,484	1,138	1,732	658	133	656	160
Women	15,997	11,301	1,921	1,285	671	162	437	220
Women/Men	1.23	1.33	1.69	0.74	1.02	1.22	0.67	1.38
Bachelor's	1,399,542	967,899	123,464	89,060	86,438	10,020	77,829	44,832
Men	595,425	418,664	41,127	34,993	38,727	3,986	34,729	23,199
Women	804,117	549,235	82,337	54,067	47,711	6,034	43,100	21,633
Women/Men	1.35	1.31	2.00	1.55	1.23	1.51	1.24	0.93
Post-baccalaureate	19,932	12,531	1,242	1,573	1,027	127	2,029	1,403
Men	6,787	4,224	370	529	371	48	738	507
Women	13,145	8,307	872	1,044	656	79	1,291	896
Women/Men	1.94	1.97	2.36	1.97	1.77	1.65	1.75	1.77
Master's	558,940	330,193	45,116	26,486	27,434	2,856	51,964	74,891
Men	229,545	126,962	12,897	9,544	12,612	999	21,753	44,778
Women	329,395	203,231	32,219	16,942	14,822	1,857	30,211	30,113
Women/Men	1.43	1.60	2.50	1.78	1.18	1.86	1.39	0.67
Post-master's	12,699	7,969	1,478	426	245	49	1,586	946
Men	4,070	2,473	308	131	95	19	522	522
Women	8,629	5,496	1,170	295	150	30	1,064	424
Women/Men	2.12	2.22	3.80	2.25	1.58	1.58	2.04	0.81
PhD degrees	48,378	26,425	2,725	1,557	2,464	206	2,248	12,753
Men	25,323	12,645	947	713	1,204	84	1,138	8,592
Women	23,055	13,780	1,778	844	1,260	122	1,110	4,161
Women/Men	0.91	1.09	1.88	1.18	1.05	1.45	0.98	0.48
First-professional degrees	83,041	57,207	5,635	4,043	9,518	536	4,172	1,930
Men	42,169	30,211	2,127	1,961	4,311	260	2,255	1,044
Women	40,872	26,996	3,508	2,082	5,207	276	1,917	886
Women/Men	0.97	0.89	1.65	1.06	1.21	1.06	0.85	0.85
First-professional certificates	905	362	38	34	107	2	38	324
Men	493	204	13	13	52	0	17	194
Women	412	158	25	21	55	2	21	130
Women/Men	0.84	0.77	1.92	1.62	1.06		1.24	0.67

Notes: Title IV institutions are those eligible to participate in Title IV federal student assistance programs other than the State Student Incentive Greant (SSIG) and the national Early Intervention Scholarship and Partnership (NEISP) programs.
First professional degree include those given to doctors, lawyers, dentists, pharmacists, veterinarians and theologians. They require at least 2 years of college before the degree and at least 6 total years once the degree is completed.
First professional certificates are awarded for courses of study completed after completing a first professional degree.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System
Table 7 in Knapp, L.G., Kelly-Reid, J.E., Whitmore, R.W., Cong, J.., Burton, L, and Berzofsky, M.
Levine, B., and Broyles, S.G. (2005). Postsecondary Institutions in the United States: Fall 2004 and Degrees and Other Awards Conferred: 2003–04 (NCES 2005–182). U.S. Department of Education.
Washington, DC: National Center for Education Statistics.
http://nces.ed.gov/pubs2005/2005182.pdf

Table A.2
Coefficient Estimates from Regressions of Actual Number of Graduates on District-Level Variables by Race and Gender

	Black		White		Other	
Variable	Males	Females	Males	Females	Males	Females
β0 Intercept	0.28 ***	0.27 ***	14.76 ***	12.98 ***	0.60 ***	0.58 ***
β1 Naïve Estimate	1.54 ***	1.75 ***	0.81 ***	0.85 ***	1.20 ***	1.88 ***
β2 Fraction of Enrollment of Race	1.17 ***	-0.98 ***	2.63 ***	1.92 ***	-0.11	-0.25
β3 Fraction of Enrollment of Gender	-0.52 ***	-0.63 ***	-29.72 ***	-30.16 ***	-1.04 ***	-1.18 ***
β4 Fraction of Race*Naïve Estimate	-0.05 **	-0.04 **	-0.31 ***	-0.09	0.29 ***	0.06 *
β5 Fraction of Gender* Naïve Estimate	-1.37 ***	-1.19 ***	0.75 ***	0.54 **	-0.80 ***	-1.95 ***

Note: See text for details about specifications used in regressions.

*** indicates statistically significant at the 0.01 level, ** at the 0.05 level, and * at the 0.10 level.

Naïve estimate is total graduates in district times fraction of enrollment of gender times fraction of enrollment of race.

Table A.3
High School Graduates by Race and Gender

Race/Gender Group	Public Grads[1]	Private Grads[3]	Total Grads[2]
Black Male	134,238	8,090	142,328
Black Female	165,455	9,804	175,259
Female/Male	1.23	1.21	1.23
White Male	801,227	89,738	890,965
White Female	813,175	73,728	886,903
Female/Male	1.01	0.82	1.00
Other Male	195,090	12,438	207,528
Other Female	214,372	11,932	226,304
Female/Male	1.10	0.96	1.09
Overall Male	1,130,555	110,266	1,240,821
Overall Female	1,193,002	95,464	1,288,466
Female/Male	1.06	0.87	1.04

[1] Data from SY 2000-01 CCD.

[2] Data combines SY 2000-01 CCD with predicted private school graduate numbers.

[3] Predicted graduates from private high schools. See text for details.

Excludes AZ, KY, NH, SC, TN, VT, and WA because data were not available by gender and race/ethnicity.